SPECIAL DATA COLLECTION SYSTEM (SDCS) EVENT REPORT, MINNESOTA, 9 JULY 1975

Teledyne Geotech

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SDCS-ER-75-66

SPECIAL DATA COLLECTION SYSTEM EVENT REPORT
Minnesota, 9 July 1975

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REPORT DOCUMENTATION PAGE

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18 SUPPLEMENTARY NOTES

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20 ABSTRACT (Continue on reverse side if necessary and identify by block number)

SDCS EVENT REPORT NO. 66

Minnesota, 9 July 1975

This event report contains seismic data from the Special Data Collection System (SDCS), and other sources for the above event. Published epicenter information from seismic observations is:

	Origin Time	Lat.	Long.	m_b	M_s
PDE	14:54:14.9	45.5N	096.1W	N/A	N/A

Using SDCS stations and LASA, the epicenter location and magnitudes become

	14:54:17.2	45.4N	096.2W	N/A	N/A

All SDCS stations were operational during this period.

Short-period signals associated with this event were recorded at CPSO, HN-ME, RK-ON, FN-WV and LASA. WH2YK did not record a "P" arrival for this event and was not included in this report. Horizontal SP channels at CPSO, HN-ME, RK-ON and FN-WV were rotated. NORSAR did not report a "P" arrival for this event.

Long-period signals were recorded at CPSO and HN-ME. No signal arrival determinations were made at WH2YK, RK-ON and FN-WV because signals were mixed with event from Eastern China. Horizontal LP channels at all SDCS stations were rotated. ALPA, LASA and NORSAR long-period data were not recoverable.

Scaling factors on plots are millimicrons at 1 Hz (not corrected for instrument response) with the exception of the LASA short-period plot. LASA SP scaling factors are millimicrons per inch.

STATION DESCRIPTION

SITE CODE	LOCATION	SITE COORDINATES DEG MN SECS	ELEVATION METERS	INSTRUMENTATION SHORT-PERIOD	LONG-PERIOD
ALPA	Alaska	65 14 00.0 N 147 44 36.0 W	626	None	31300
CPSO	McMinnville, Tennessee	35 35 41.4 N 085 34 13.5 W	574	6480 V 7515 H	SL210 V SL220 H
FN-WV	Franklin, West Virginia	38 32 58.0 N 079 30 47.0 W	910	KS36000	KS36000
LASA	Billings, Montana	46 41 19.0 N 106 13 20.0 W	744	HS10	7505A V 8700C H
HN-ME	Houlton, Maine	46 09 43.0 N 067 59 09.0 W	213	18300	SL210 V SL220 H
NORSAR	Kjeller, Norway	60 49 25.4 N 010 49 56.5 E	379	HS10	7505A V 8700C H
RK-ON	Red Lake, Ontario	50 50 20.0 N 093 40 20.0 W	366	18300	SL210 V SL220 H
WH2YK	White Horse, Yukon	60 41 41.0 N 134 58 02.0 W	853	18300	SL210 V SL220 H

Note: The orientation of the radial instruments at FN-WV is assumed to be 316° ± 5° based on empirical data (event recordings). Rotation, where performed, is referenced to this azimuth and may be questionable.

HYPOCENTER DETERMINATION

INPUT FOR EVENT 9 JUL 75
14:53:53.0 46.000N 97.500W 0KM.

STA.	ARRIVAL	RESIDUALS CALC	RESIDUALS REST	DIST. REST	AZ. REST
FK-CN	14 55 42.0	0.3	-0.2	5.7	16.3
IAC	14 56 02.0	-0.2	-0.1	7.1	283.8
CESC	14 57 18.7	1.0	0.7	12.7	137.0
FN-WV	14 57 36.0	-1.2	-1.5	14.2	113.2
FN-ME	14 58 47.2	0.1	1.1	19.6	77.8

67 HERRIN TRAVEL TIME TABLES

ORIGIN	LAT.	LONG.	DEPTH (KM)	SDV	IT	STA
14:54:07.3	45.446N	96.116W	-67. CALC	0.8	6	5
14:54:17.2	45.433N	96.168W	0. REST	1.0	3	5

CALC

```
    C . 0
  0   .   0
0    1. 2   0
. . . . . . .
C    0. 2   0
  0   .   0
    0 . 0
```

REST

```
    0 . 0
  0   .   0
0    1. 2   0
. . . . . . .
0    0. 2   0
  C   .   0
    0 . 0
```

CHI2 COVERAGE ELLIPSE: 95 PER CENT CONF..LEVEL, SDV= 2.59
MAJOR 47.0KM. MINOR 30.6KM. AZ= 32 AREA= 4524 SQ.KM. REST

DATA SUMMARY

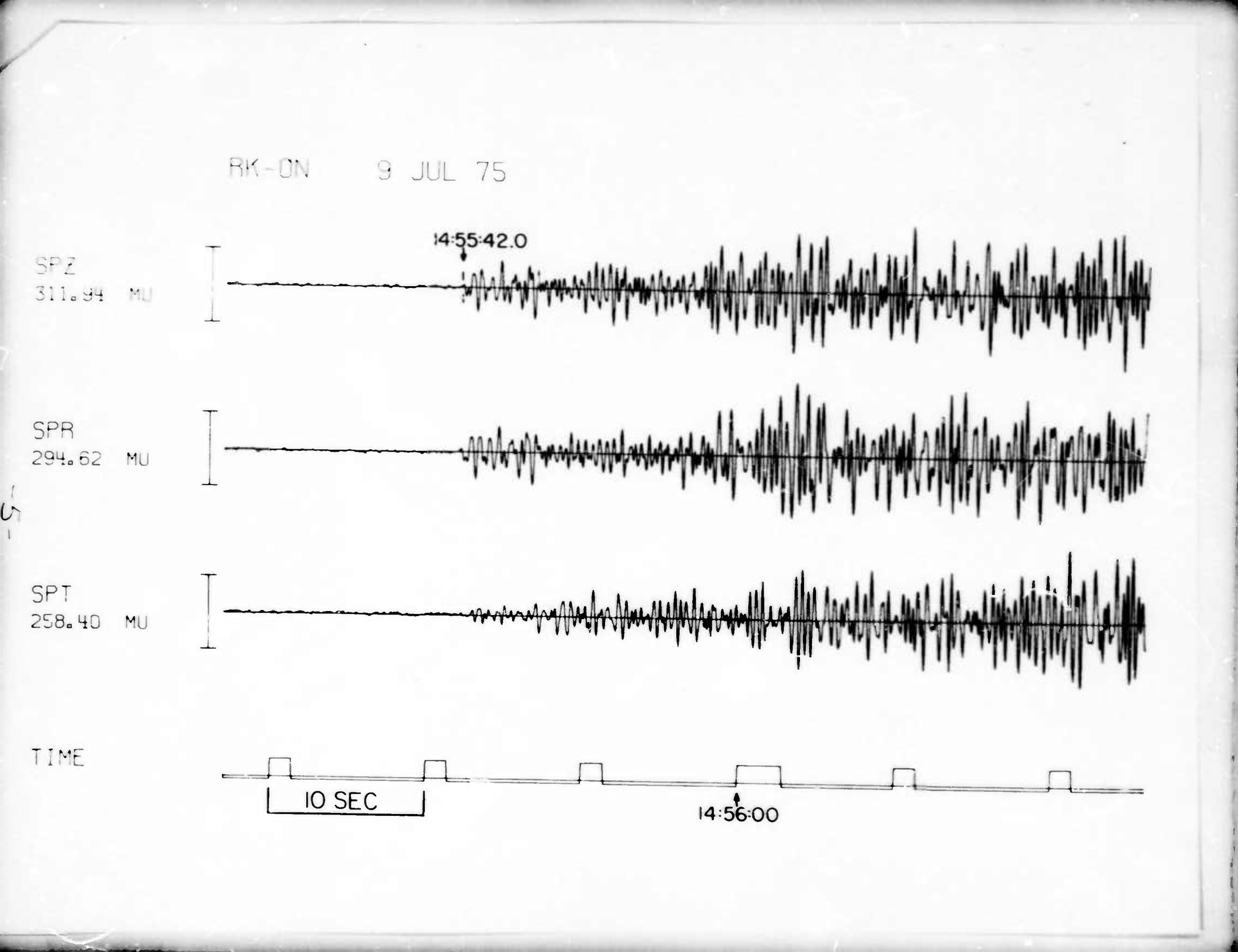
INPUT FOR EVENT 9 JUI 75
14:53:53.0 46.000N 97.500W 0KM.

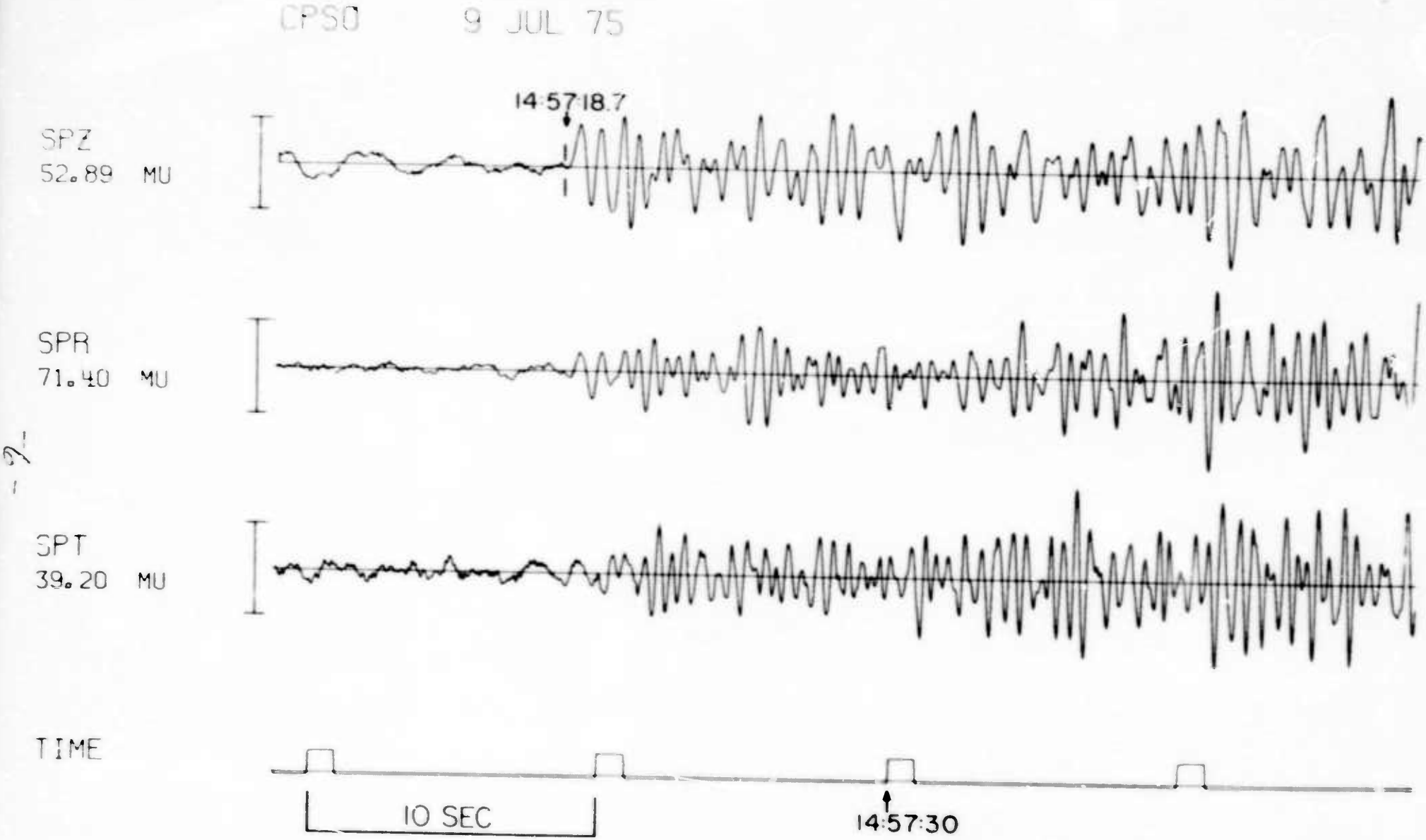
STA.	PHASE	ARRIVAL TIME	INST	PER	AZI	MAGNITUDE MB	MS	DIR	DIST
FR-CNR	EP	14 55 42.0	SPZ	C.5	101.	5.24			5.7
IAC M	EP	14 56 02.0	SAE	0.8	232.	5.89			7.1
CPSC M	EP	14 57 18.7	SPZ	0.5	64.	5.54			12.7
CPSC	IC	15 01 24.0	IPT	17.0	137.				
FN-WVM	EP	14 57 36.0	SPZ	0.5	32.	4.76			14.2
HN-MEM	EP	14 58 47.2	SPZ	0.6	7.	3.55			19.6
HN-ME	IC	15 05 13.0	IPT	18.0	73.				
HN-ME	IR	15 06 04.0	IPZ	14.0	71.		4.26		19.6

ORIGIN	LAT.	LONG.	DEPTH (KM)	MAG	SDV	STA
14:54:07.3	45.446N	96.116W	0. CALC	0.0	******	0
14:54:17.2	45.433N	96.166W	0. REST	0.0	******	0

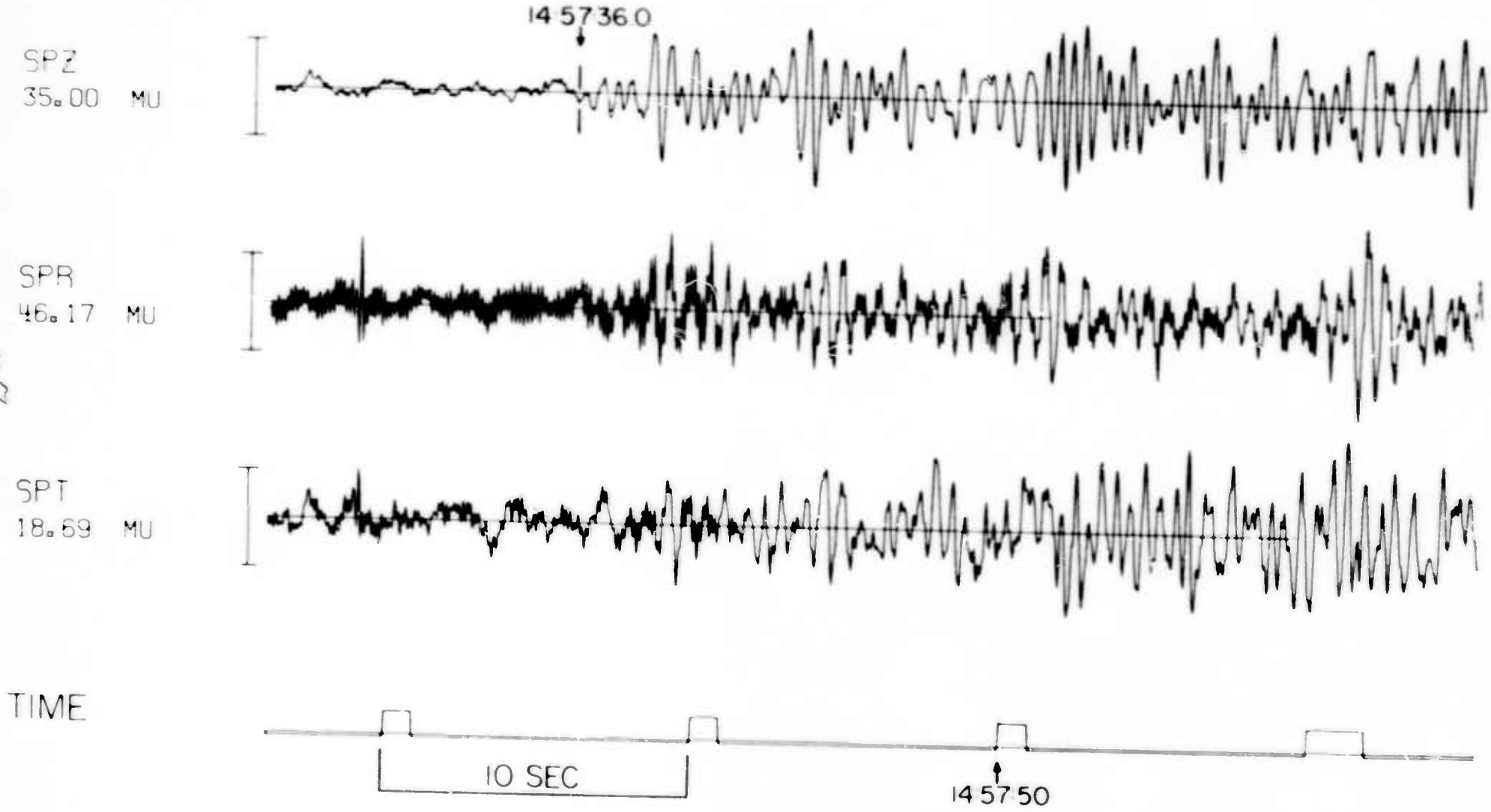
Short-period magnitudes (m_b) used in averaging are restricted to those recorded at distances between 20 and 110 degrees from the epicenter.

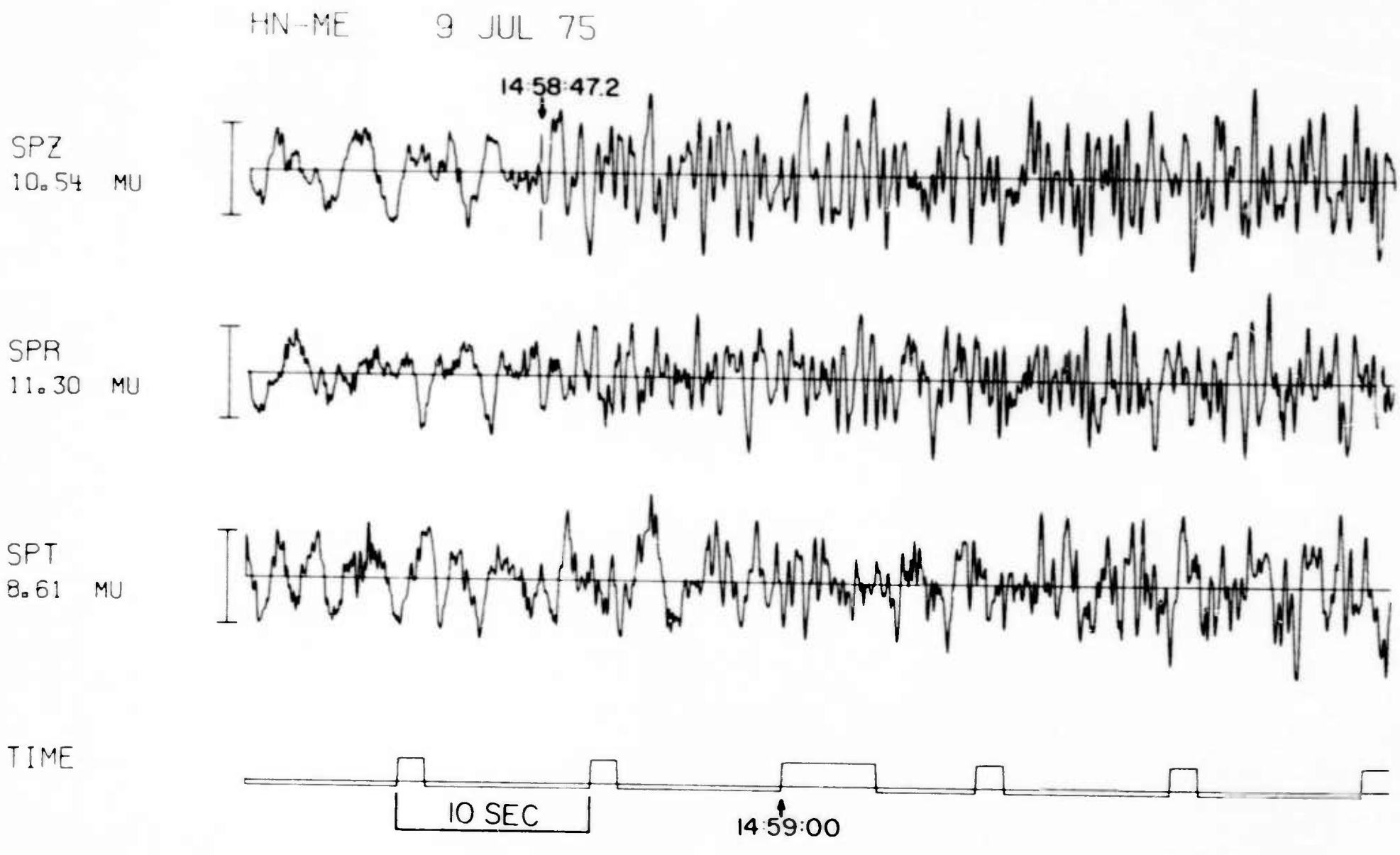
Average long-period magnitude (M_S) is based on Rayleigh wave observations in the period range of 17 to 23 seconds per cycle.

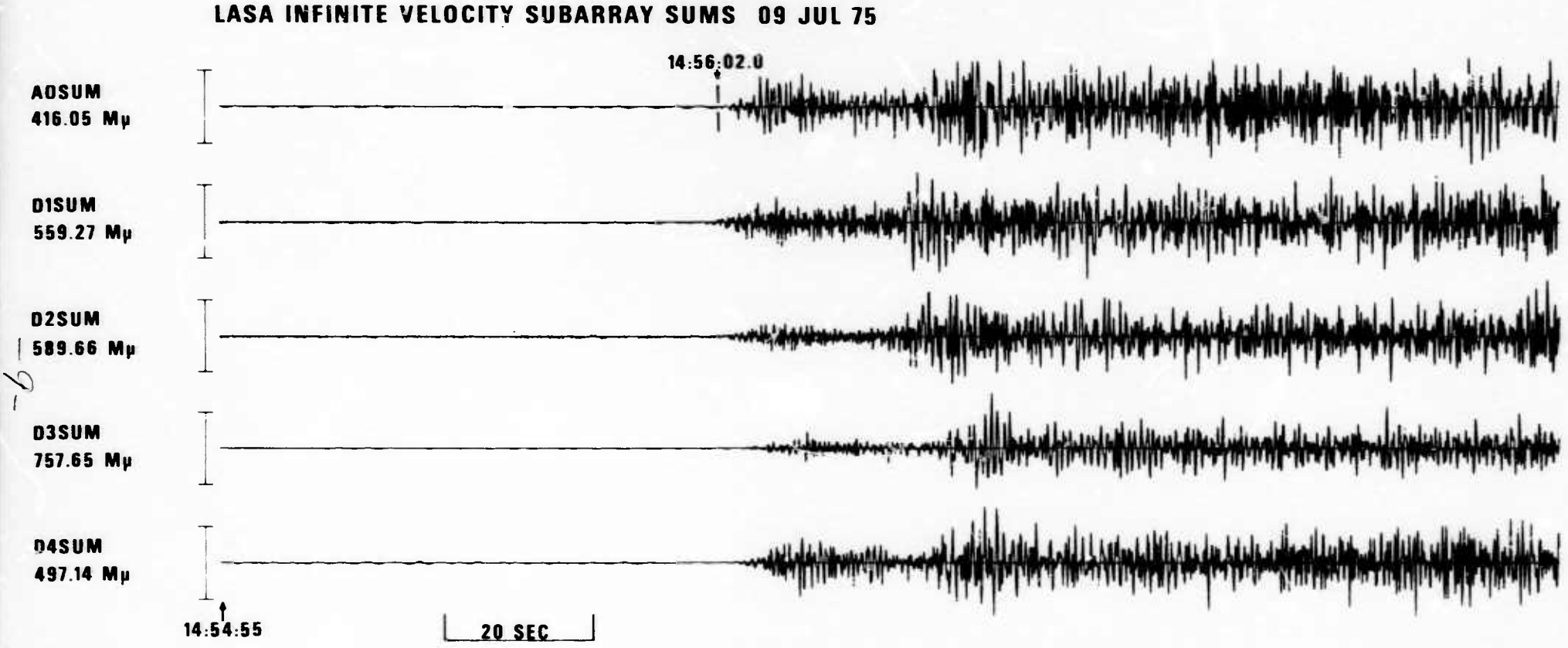

RK-ON 9 JUL 75
14:55:42.0
SPZ
311.94 MU
SPR
294.62 MU
SPT
258.40 MU
TIME
10 SEC
14:56:00

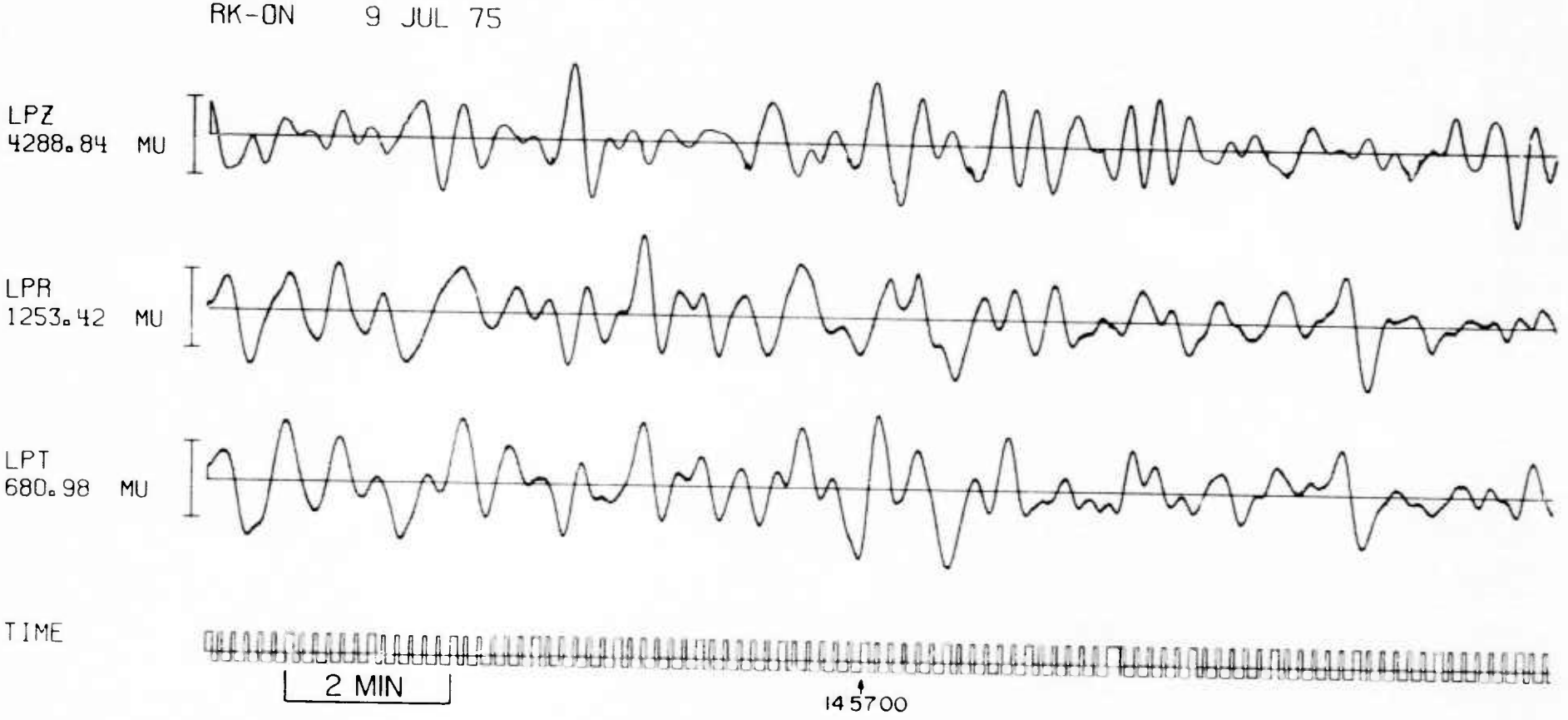

CPSO 9 JUL 75
14:57:18.7
SPZ
52.89 MU
SPR
71.40 MU
SPT
39.20 MU
TIME
10 SEC
14:57:30

FN-WV 9 JUL 75

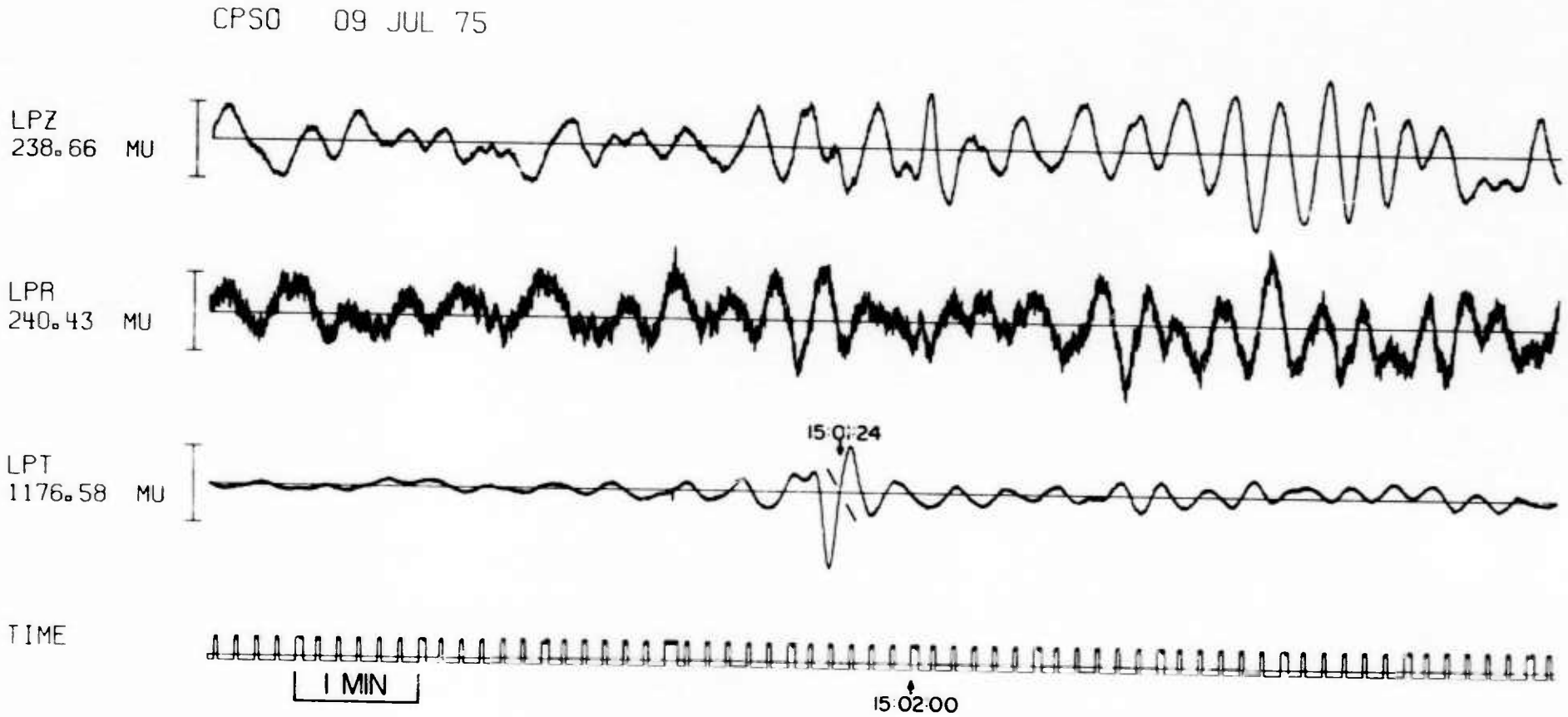


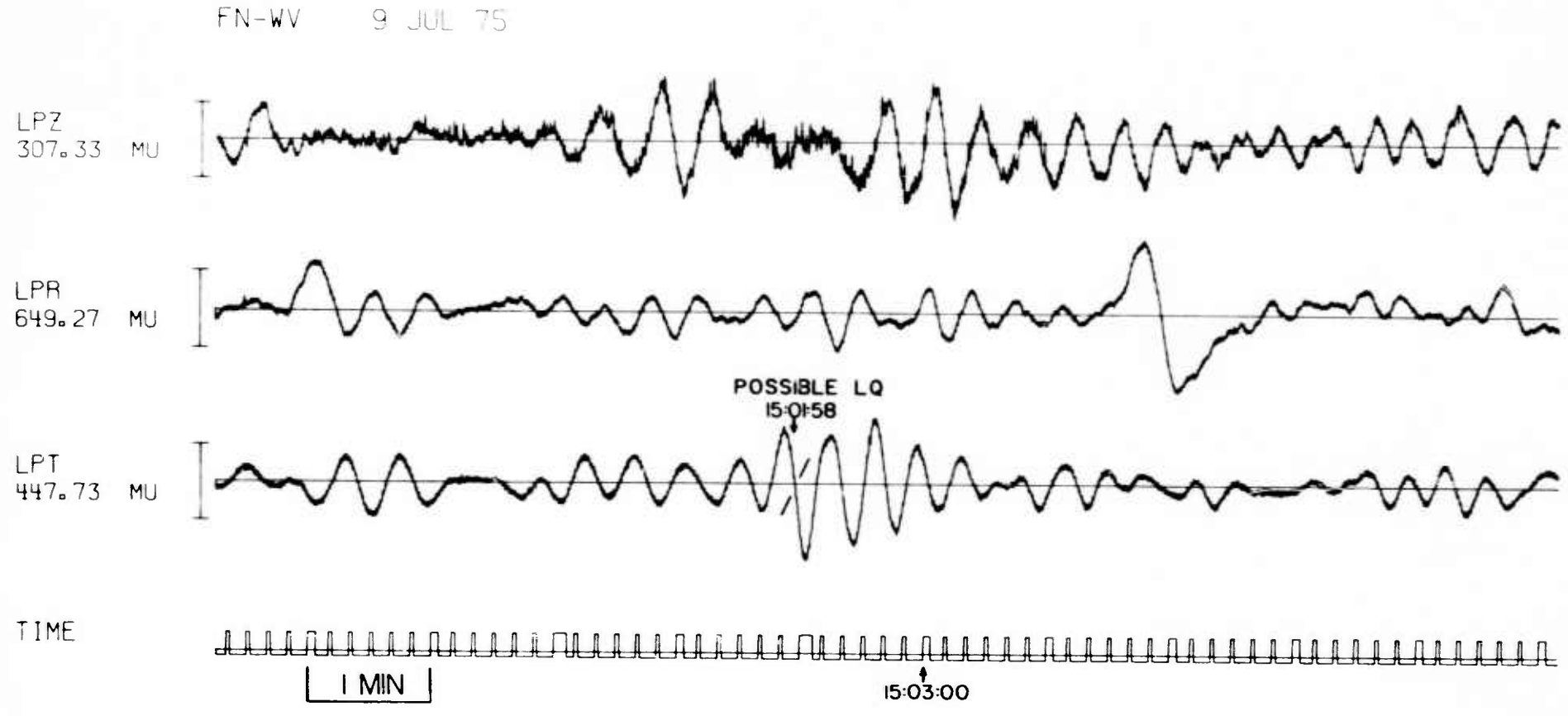

HN-ME 9 JUL 75
14:58:47.2
SPZ
10.54 MU
SPR
11.30 MU
SPT
8.61 MU
TIME
10 SEC
14:59:00

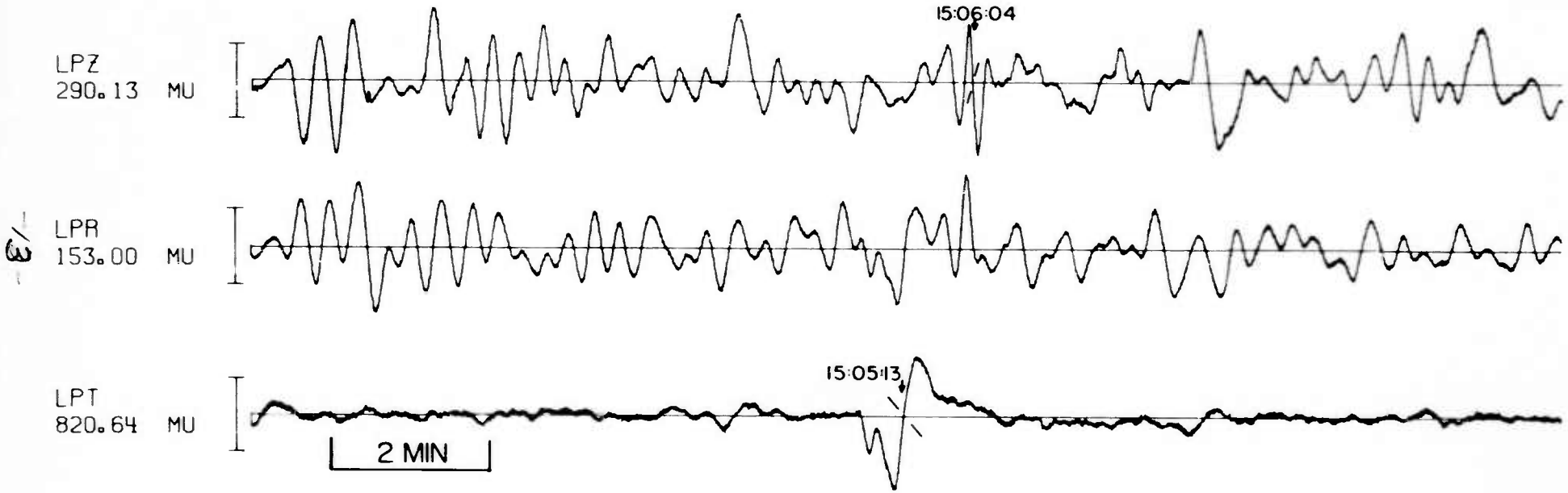

LASA INFINITE VELOCITY SUBARRAY SUMS 09 JUL 75
14:56:02.0
A0SUM
416.05 Mμ
D1SUM
559.27 Mμ
D2SUM
589.66 Mμ
D3SUM
757.65 Mμ
D4SUM
497.14 Mμ
14:54:55
20 SEC

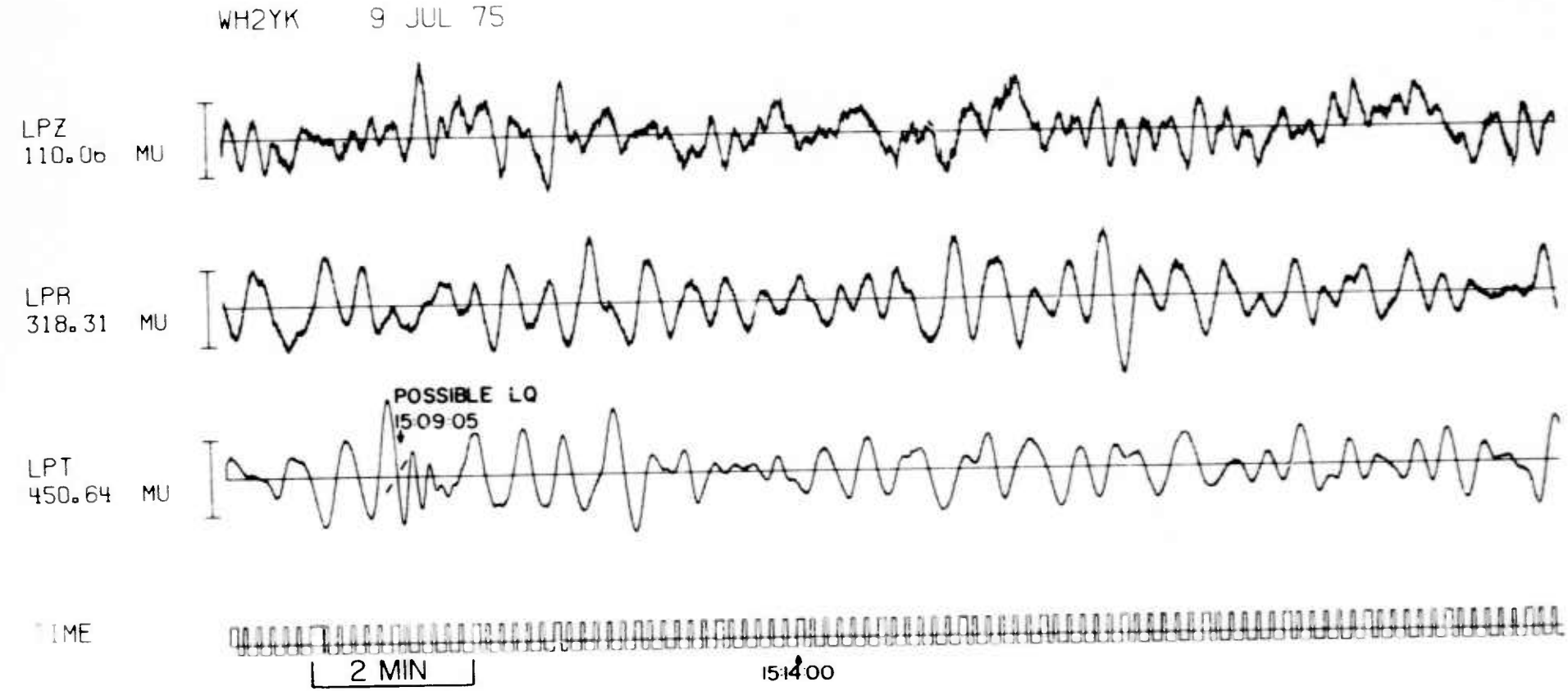

RK-ON 9 JUL 75
LPZ
4288.84 MU
LPR
1253.42 MU
LPT
680.98 MU
TIME
2 MIN
145700

-01-


CPSO 09 JUL 75
LPZ
238.66 MU
LPR
240.43 MU
15:01:24
LPT
1176.58 MU
TIME
1 MIN
15:02:00


FN-WV 9 JUL 75
LPZ
307.33 MU
LPR
649.27 MU
POSSIBLE LQ
15:01:58
LPT
447.73 MU
TIME
1 MIN
15:03:00


HN-ME 9 JUL 75
LPZ
290.13 MU
15:06:04
LPR
153.00 MU
LPT
820.64 MU
15:05:13
2 MIN


WH2YK 9 JUL 75
LPZ
110.06 MU
LPR
318.31 MU
POSSIBLE LQ
15:09:05
LPT
450.64 MU
IME
2 MIN
15:14:00